

REMARKS

This application has been carefully reviewed in light of the Office Action dated January 20, 2004 (Paper No. 8). Claims 1 to 12 are pending in the application. Claims 1, 3, 5, 7, 9 and 11, all of which are independent, have been amended. Reconsideration and further examination are respectfully requested.

In the Office Action, Claims 1, 3, 5, 7, 9 and 11 were rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 5,889,842 (Azami); and Claims 2, 4, 6, 8, 10 and 12 were rejected under 35 U.S.C. § 103(a) over Azami in view of U.S. Patent No. 5,367,522 (Otani). Reconsideration and withdrawal are respectfully requested.

The present invention generally concerns communication in an ISDN. When a call connection fails, a reason for the failure in connection is decided. According to one feature of the invention, a timer value is set to wait for a predetermined time after a line disconnection failure when a mismatch in communication mode is decided.

By virtue of the foregoing, in which a timer value is set to wait for a predetermined time after a line disconnection failure when a mismatch in communication mode is decided, the present invention largely avoids the problem of connection refusal resulting from a re-attempt to communicate which occurs too quickly after switching into the new communication mode, before a partner communication apparatus with which a connection is sought has a chance to reset.

Referring specifically to the claims, independent Claim 1 as amended is directed to a communication apparatus connected to an ISDN. The communication apparatus includes decision means for, when call connection fails, deciding a reason for the failure in connection. The communication apparatus also includes setting means for setting a timer value used to wait for a predetermined time after a line disconnection failure when

the decision means decides a mismatch in communication mode. In addition, the communication apparatus includes control means adapted for waiting for the predetermined time in response to the decision of a mismatch in communication mode made by the decision means, and then switching the communication mode to another communication mode to try the call connection again.

In a similar manner, independent Claims 5 and 9 respectively define the invention in terms of a method and a storage medium.

Independent Claim 3 as amended is directed to a communication apparatus connected to an ISDN, having a plurality of communication protocols in a B channel, the apparatus including D-channel control means for controlling a call in a D channel, and a plurality of B-channel control means for conducting protective controls corresponding to a plurality of communication modes in the B channel. The communication apparatus includes decision means for, when call connection by the D-channel control means fails, deciding whether or not call connection should be tried by the D-channel control means again after switching a communication mode in the B channel to another communication mode. The communication apparatus also includes timer control means for waiting for a predetermined time after a line disconnection failure when the decision means decides that the call connection should be tried by the D-channel control means again after the switching to such another communication mode in the B channel. In addition, the communication apparatus includes control means adapted for switching to the another communication mode in the B channel after waiting for a predetermined time by the timer control means to try the call connection again by the D-channel control means.

In a similar manner, independent Claims 7 and 11 respectively define the invention in terms of a method and a storage medium.

The applied art is not seen to disclose or to suggest the features of the invention of the subject application. In particular, the Azami patent is not seen to disclose or suggest at least the feature of setting a timer value to wait for a predetermined time after a line disconnection failure when a mismatch in communication mode is decided.

As understood by Applicant, Azami teaches a communication system with first and second communication terminals, in which the first communication terminal can detect whether a call to the second communication terminal has been refused due to an incorrect communication mode. If the first communication terminal detects that the wrong communication mode is set, the first communication terminal changes communication modes, and re-attempts the connection. See Azami, Abstract.

In its rejection of the claims, the Office Action contended that lines 8 to 29 of column 7 and FIG. 5 of Azami disclose setting a timer value used to wait for a predetermined time when a mismatch in communication is decided. In its response to arguments, the Office Action further contended that Azami teaches different waiting states with the timer for different types of tones such as start, agreement, setting and completion tones, and that in any event, the feature of a “predetermined time” was not recited in the claims.

Addressing this latter contention first, Applicant respectfully responds that the feature of a “predetermined time” was indeed a feature found in all rejected claims.

As for the contentions, without conceding the correctness of them, Applicant respectfully submits that Azami still does not teach that the timer value is set for a predetermined time after a line disconnection failure, nor does it teach the attendant benefits that setting a timer value in this manner before re-attempting a call connection would provide. As a consequence, Azami could not possibly be seen to describe setting a

timer value to wait for a predetermined time after a line disconnection failure when a mismatch in communication mode is decided.

Accordingly, based on the foregoing amendments and remarks, independent Claims 1, 3, 5, 7, 9 and 11 as amended are believed to be allowable over the applied reference of Azami.

The other claims in the application are each dependent from the independent claims and are believed to be allowable over the applied reference for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicant's undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

  
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